

Weekly Report

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Readings

This week I did a survey of the the papers on information visualization and visual analytics sessions of EuroVis 2012. The following papers were listed for further reading:

- *Semi-Supervised Dimensionality Reduction based on Partial Least Squares for Visual Analysis of High Dimensional Data* which is one of the latest work after the local affine multidimensional projection;
- *MarketAnalyzer: An Interactive Visual Analytics System for Analyzing Competitive Advantage Using Point of Sale Data* and *The World's Languages Explorer: Visual Analysis of Language Features in Genealogical and Areal Contexts* which are two visual analysis applications.

Practice & Skills

As some recent common issues on the performance of parallel coordinates with Feiran and me, we found two new visualization frameworks based on C++, which were openFrameworks and Cinder. After a short survey on the functionality and tutorial of the two frameworks, the openFrameworks was chosen by me because of the portability from Processing to it, while Cinder has a slightly better performance than openFrameworks for it uses native API of the target operating system rather than many third-party open-source libraries.

Research

The two larger datasets Gowalla and China Telecom(from Jianghua) were successfully loaded in Gephi with memory costs of more than 4GB each. The brush operation and community detection algorithm were available in an acceptable time(several minutes). However, these two datasets both have so many communities(more than one hundred) that it may affect the final result. Now the Brightkite dataset seems to be the best choice.

The problem now is to calculate the context graphs of the dataset, however it takes several hours and no result. I am trying to fix the program with Jiayi for adaptation of current scale of data.

Miscellaneous

None.

Plan for Next Week

- Get the context graphs right;
- help Dr. Dichao Peng with the writing of our new case study section.